

PEDAGOGY: SPATIAL AWARENESS IN TECHNIQUES AND TEACHING DANCE

Arvee B. Velasco^a, Bryan L. Cancio^b

^a*arvee.velasco@hcdc.edu.ph*

^a*Holy Cross of Davao College, Ecoland, Davao City, 8000, Philippines*

^b*Holy Cross of Davao College, Doña Asuncion, Pampanga, Davao City, 8000, Philippines*

Abstract

This research delved into the study of spatial awareness within theories and teaching techniques in dance, exploring the intricate relationship between body movement and spatial cognition. This study used a non-experimental quantitative research design employing a descriptive correlation approach. An adapted questionnaire was utilized to assess the relationship between dance awareness and students' interest in folk dance, with statistical tools such as mean, and Pearson Product Moment Correlation Coefficient employed for data analysis. The study revealed a moderate level of spatial awareness among teachers and researchers in dance education, suggesting the potential for further training and development in this area. The results indicated a significant level of spatial awareness among teachers and researchers in dance education, emphasizing the importance of integrating spatial training in dance education and highlighting the need for tailored interventions to address specific groups' spatial cognition abilities. This study underscored the critical role of spatial awareness in dance pedagogy and recommended incorporating specialized spatial training programs to enhance dancers' artistic proficiency.

Key words: Dance training, appropriation in Dance

1. Introduction

Spatial awareness in dance, as elucidated by Kip Garvey (2017), encompassed the comprehension of one's personal space and the intricate challenge encountered by novice dancers in honing their spatial orientation skills within dance formations and arrangements. Garvey underscored those new dancers often prioritized mastering movements ahead of grasping the spatial intricacies of their positions in relation to

fellow dancers and formations. This delayed acquisition of spatial awareness could result in frequent errors and bewilderment among new dancers, significantly influencing their learning journey and potentially fostering frustration. A critical concern highlighted was the rapid pace of learning programs, which inundated new dancers with a plethora of instructions without affording them adequate time to cultivate their spatial orientation abilities. Garvey emphasized the indispensable role of time in the learning process, emphasizing the necessity for new dancers to be granted sufficient time to fully internalize spatial concepts like ends, centres, leaders, and trailers within formations. The haste to advance through dance curricula without ensuring the acquisition of essential spatial awareness could precipitate frustration, disillusionment, and a deterioration in the overall quality of dancing experiences.

The global perspective on spatial awareness in dance underscores its universal importance in dance education and performance. Studies by Lee and Kim (2020) on contemporary dance performances worldwide highlighted the challenges of spatial awareness in complex choreographies, emphasizing the need for advanced training to enhance performance quality. Chen et al. (2019) explored spatial processing challenges in individuals with autism spectrum disorder on a global scale, suggesting that dance education could play a crucial role in improving spatial cognition and fostering inclusivity within dance communities. Recommendations by Smith and Jones (2018) advocated for increased emphasis on spatial awareness in dance training at all levels to elevate performance standards and enhance accessibility to dance education internationally.

In the Philippines, spatial awareness in dance began to gain recognition at the national level, driven by initiatives such as "Philippine Space Week." President Ferdinand R. Marcos Jr. declared August 8–14 of every year as "Philippine Space Week" to promote space awareness among Filipinos. Although not directly linked to dance, this declaration reflected a broader commitment to scientific literacy and technological advancement, which could indirectly benefit dance education and performance.

In the local dance community, the issue of spatial awareness was often observed in group performances where dancers struggled to maintain proper spacing and alignment, leading to collisions or uneven formations. This lack of spatial awareness training could hinder the overall visual impact and safety of dance routines, requiring choreographers and instructors to dedicate additional time to address these challenges during rehearsals. By incorporating specific exercises and drills focused on spatial awareness, local dance groups could enhance their performances and create a more cohesive and visually appealing presentation on stage.

1.1. Statement of the Problem

Purpose of the Study: The purpose of this study is to describe the level of spatial awareness in theories and teaching techniques in dance. Specifically, this study sought to answer the following:

1. What is the profile of respondents in terms of:
 - 1.1 Dancers/students;
 - 1.2 teachers; and
 - 1.3 researchers?
2. What is the level of spatial awareness in terms of:
 - 1.1 Relationship between Movement and Environment
 - 1.2 Visualization; and
 - 1.3 Objective Spatial Indicators:?
3. Is there a significant difference in the level of spatial awareness when analyzed across the profile of the respondents?

2. Methodology

2.1 Research Design

This study's quantitative research employed a descriptive comparative approach. According to Henly M. K. 2020. Quantitative research design is concerned with quantities and measurement; how much something exists; how long something has been happening; or explaining why something happened and maybe forecasting whether it will occur again in the future. Furthermore, Keman, H., and Pennings, P. (2014) believe that a descriptive comparative serves as a link between the research question posed and the research solution suggested. The approach and research strategy were chosen to systematically measure and analyze numerical data related to various components of spatial awareness in the context of dance. It focused on vital topics such as social dancing, body awareness, the need to dance, and dance training.

2.2 Research Locale

This study will be conducted in Davao City which is geographically located in the province of Davao del Sur. lying in the grid squares of 6°58' to 7°34' N latitude, and 125°14' to 125°40' E longitude. The city is in southeastern Mindanao on the northwestern shore of Davao Gulf, opposite Samal Island. The survey questionnaires will be conducted to the private schools in Davao City. Non- sectarian school located in Davao City. It has a total of 200 Bped students.

2.3 Research Respondents

Research Respondents Thirty (30) Bped students from Davao City's private schools participated in this study. A letter of intent to conduct the study was given to the head of dean and advisers to ensure the respondents willingness to answer the survey as well as to exercise data privacy.

2.4 Research Instrument

An adapted and modified questionnaire was used as the research instrument for this study that was distributed online and passed through reliability testing using Cronbach's Alpha. Each of the 20 items in the questionnaire was scored on a 5-point scale, with 1 indicating very low, 2 low, 3 moderate, 4 high, and 5 very high. The demographic profile of the respondents was covered in the first section of the survey, while the level of spatial awareness in dance among high school students was explored in the second part with reference to body awareness, social dancing, the urge to dance, and dance training. In order to obtain the samples that represented Bped students, this study also relied on the gathering and analysis of structured data. Structured data is a sort of data that has been arranged into a prepared repository, typically a database. This was done for the purpose of addressing each element of the data for more efficient processing and analysis. The data was contained in a record or file's fixed field Ben Luckovich (2023). The gathering of data was conducted through online survey. The chosen respondents were asked first about the survey and gave their consent agreeing to participate before the researcher gave the google form link containing the survey questionnaire. The respondents rated each item according to the given choices, which corresponded to their answer. The respondents were given not less than 10 minutes to fill in the survey. Once the survey was fully completed by all the respondents, the data was later analyzed along with the computation. Above all, the researcher followed the research protocols in conducting the survey by including ethical considerations that were necessary for this study.

3. Result and Discussion

This chapter presents the discussions of the results and analysis of data. To investigate the problems raised in Chapter 1 of this research study, the acquired data were analyzed using suitable statistical tools. Discussions were presented categorically based on the sequence of the statement of the problem. Relevant related literature was used to discuss and support the findings.

3.1 Profile of the Respondents

This section presents the profile of the respondents in terms of age, sex, and year level. Table 1 presents the respondent's profile, frequency, and percentage. In terms of age, the result shows that 18 to 26 years old obtained the highest percentage of 97.7, while the lowest percentage is garnered by 27 to 35 years old with 3.4. It means that more than half of the respondents are around 18 to 26 years old. The next profile variable is

sex. It is categorized as male and female. The result shows that 60 percent of the respondents are female, and 40 percent are male. It means that a higher number of the respondents surveyed are female. The last profile variable is the year level of the respondents. The result shows that fourth year physical education students obtained the highest percentage of 51% while the lowest percentage is garnered by second- and third-year physical education students with 13.3. It means that more than half of the respondents are fourth year physical education students. Furthermore, the respondents tally a total of 30.

Table 1. Demographic Profile of the Respondents

Profile	Frequency	Percent
1.1 Age		
18-26	29	97.7%
27-35	1	3.4%
36-44	0	0%
45-above	0	0%
Total	30	100%
1.2 Sex		
Male	12	40.0%
Female	18	60.0%
Total	30	100%
1.3 Year dance experience		
Less than a year	7	23.3%

1-3 Years	4	13.3%
4-6 Years	4	13.3%
7 or more Years	16	51.0%
Total	30	100%

Level of Spatial Awareness in techniques and teaching in dance among Bped students

The table below presents an overview of spatial awareness in dance among Bped students, assessing a variety of criteria including body awareness, social dancing, the desire to dance, and dance instruction. Table 2 shows that the students' total mean rating was 3.92, showing a high level of spatial awareness in dancing. This shows that the pupils' spatial awareness in dancing is relatively noticeable in the school setting. It means that they have a reasonable understanding of where they are and how to move in the performance area, which most likely permits them to handle choreography to some extent.

Indicators	SD	Mean	Descriptive Level
Relationship between movement and environment	0.85	3.96	High
Spatial Judgment Visualization	0.86	4.04	High
Objective spatial	0.95	3.76	High
Overall Mean	0.88	3.92	High

This finding supports the hypothesis of da Silva et al. (2018), who argue that dance in schools promotes to students' motor and psychological development by promoting new corporal abilities and enhancing general motor coordination, balance, and spatial awareness.

This suggests that students' spatial awareness in dance, as measured by their spatial perception of dance, is very visible in school. Furthermore, this suggests that students should be motivated to engage in rigorous activities, particularly in dance, as they develop an acute sense of spatial intelligence, allowing them to navigate and manipulate the space around them with exceptional precision, reinforcing the statement of K., Colton, et al., (2016) that dancers have been found to be uniquely aware of the relationship between their that dancers have been found to be uniquely aware of the relationship between their body and the environment, making them spatial expert. Then followed by Relationship between movement and environment, it obtained the mean score of 3.96, which is interpreted as high. This indicates that students' Relationship between movement and environment is highly evident. Based on the study of Youhong, et al.,(2019), by honing Relationship between movement and environment, dancers can prevent injuries, improve dynamic alignment, and enhance expressivity and artistry in their movements. This means that specific exercises and thoughtful practices, like mirror work, which help students visually connect with their movements and reflect on them to improve their spatial comprehension, must be incorporated into the dance curriculum. Presenting choreography requires students to move dynamically within the given space by utilizing changes in direction, levels, and paths. Guided imaging exercises can help you develop a stronger cognitive link to movement in three dimensions by generating objective spatial associations. Using these strategies, dance instructors can effectively improve their pupils' body and spatial awareness while also allowing them to move with confidence, distinctiveness, and precision. Finally, a mean rating of 3.76 for social dance, which is likewise interpreted as moderate, suggests that high school pupils are moderately exposed to social dance at school. Temple, B. A., et al. (2020) argue that "experiential learning" in and through the arts is beneficial to young pupils. It entails exposing students to partner-based activities that encourage connection and cooperation, as well as introducing students to coordinated floor movement exercises that accentuate closeness.

These build nonverbal communication between dance partners and allow them to anticipate and make up for each other's actions. In addition, giving students the chance to practice social dances in a variety of environments can help them become improved at adjusting to different space 11 limitations. As a result, creating a social dance atmosphere which stresses communication, collaboration, and spatial awareness helps students have a fulfilling and well-rounded dancing experience.

Test of Difference in the Level of Spatial Awareness in Dance among Bped Students When Analyzed Across the Profile of the Respondents

Table 3. Test of Difference in the Level of Dance Technique among College Physical Education Students When Analysed Across the Profile of the Respondents

Profile	F/t-value	P- VALUE	DISCUSSION	Interpretation
Sex	.79	.69	Failed to Reject Ho	Not Significant
Age	.19	.99	Failed to Reject Ho	Not Significant
Year Level	6.51	.88	Failed to Reject Ho	Not Significant

In terms of sex, it garners an F-value of .79 with a p-value of .69 which is lower than .05 in the level of significance, indicating that there is a significant difference. The null hypothesis cannot be rejected, indicating that the level of spatial awareness in dance among high school students varies significantly across different age groups. In terms of age, it records a f-value of .19 with a p-value of .99 which is greater than .05 in the level of significance, indicating that there is no significant difference. It fails to reject the null hypothesis. Moreover, it indicates that the level of spatial awareness in dance of high school students between male, female, and the non-binary is similar. 12 Additionally, in terms of dance experience, it marks and f-value of 6.51 with a p-value of .88 which is greater than .05 in the level of significance, indicating that there is no significant difference. The null hypothesis cannot be rejected, indicating that the level of spatial awareness in dance does not significantly vary among number of years of experience among high school students from grade 7 to grade 12. These data show that age has a substantial impact on high school pupils' spatial awareness in dance, while gender and dance experience do not. It implies that, except for age, students' spatial awareness is solely consistent with demographic criteria such as gender and dancing experience. The findings corroborate Temple, B. A., et al.'s (2020) hypothesis that student age appears to influence spatial awareness in

dance. Older observers were found to be less sensitive to targets with coarse structure (low spatial frequencies) than younger observers. Furthermore, the reduction in visual spatial ability with age may be attributable to changes in cognitive processes.

Samantha Farrell (2017) discusses working memory and attention, as well as changes in brain anatomy and function. Because spatial awareness in dance appears to be a cognitive skill largely unrelated to an individual's gender and dance experience, it can be concluded that spatial awareness is a universal ability that transcends gender differences, with both males and females, including non-binaries, demonstrating comparable levels of proficiency. Furthermore, while dance experience can improve specific aspects of movement execution, basic spatial awareness appears to be influenced by intrinsic cognitive capacities rather than dance background.

4. Conclusions and recommendations

This chapter presents the conclusions and recommendations of the researchers. The researchers summarized the findings to answer the problems regarding to the study while recommendations are for the development of the present status about the topic presented by the researchers. The primary data were collected by distributing online survey questionnaires to 50 respondents. The results of the survey provided answers to problems stated on the previous chapter.

Conclusions

In conclusion, this study delved into spatial awareness within dance theories and teaching techniques, shedding light on several significant findings. The research utilized a non-experimental quantitative research design, employing a descriptive correlation approach to assess the relationship between dance awareness and students' interest in folk dance. The findings from the study provided valuable insights into the level of spatial awareness among teachers, researchers, and Bachelor of Physical Education (BPEd) students in the context of dance education.

The profile of respondents indicated a predominant representation of young adults aged between 18 to 26 years old, with a higher percentage of female respondents and a significant proportion of fourth year BPEd students. This demographic composition offered a comprehensive understanding of the participant pool involved in the study.

The analysis of spatial awareness levels among BPEd students revealed a commendable proficiency across various dimensions. Specifically, students exhibited a high level of understanding in the relationship between

movement and the environment, spatial judgment visualization techniques, and objective spatial indicators. These findings underscored the efficacy of current dance education methodologies in fostering spatial cognition skills among students.

Moreover, the study did not identify significant differences in spatial awareness levels concerning demographic variables such as sex, age, or year level. This indicated a consistent level of spatial awareness training and proficiency among BPEd students, irrespective of these demographic factors. Based on the quantitative conclusions drawn from the data, several recommendations were proposed to further enhance spatial awareness training in dance education. These recommendations included the continued integration of spatial awareness training into existing curricula, focusing on targeted skill development, implementing continuous assessment and improvement strategies, fostering collaboration with industry professionals, and expanding research efforts to explore additional factors influencing spatial awareness in dance.

In essence, this research contributed to the ongoing discourse on spatial awareness within dance education, emphasizing the critical role of spatial cognition skills in enhancing dancers' artistic proficiency. The findings and recommendations from this study could serve as a foundation for future research endeavors and the development of tailored interventions to optimize spatial awareness training in dance pedagogy.

4.1 Recommendations

Based on the findings of the study, it is recommended that dance education programs continue integrating spatial awareness training into curricula, focusing on targeted skill development such as adapting to different stage environments, concentrating on technical details, maintaining balance, and understanding spatial relationships within dance formations. Regular assessment methods should be implemented to track students' progress effectively, using feedback mechanisms, workshops, and practical exercises to facilitate continuous learning and skill refinement in spatial cognition. Inclusive training approaches catering to diverse learning styles and abilities should be incorporated, along with collaborations with industry professionals to provide mentorship aligned with industry standards. Furthermore, expanding research efforts to explore additional factors influencing spatial awareness in dance and promoting interdisciplinary learning can enhance students' understanding and application of spatial cognition skills, ultimately contributing to the development of skilled and proficient dancers in dance education.

Acknowledgements

Foremost, the researcher would like to give thanks and glory to the Almighty God, who guided, blessed, and gave me the knowledge, wisdom and understanding on doing the research. For whom, nothing is impossible. The researcher would also like to express sincere gratitude to the professors for unselfishly sharing their knowledge, time, and skills for assisting on improving the study. Also to sincerely thank and appreciate my family and last but not least to Janna Mae Gallardo for her never-ending support, love and care.

References

- Putri, N. a. D., Kamaluddin, K., & Amrina, A. (2023). TikTok application on Achievement and learning Motivation at Influence Colleges. *Sciencetechno Journal of Science and Technology*, 2(1), 80-96. <https://doi.org/10.55849/sciencetechno.v2i1.62>
- Serkan Can Hatipoğlu, Melih Kamaoğlu, Gamze Şensoy, & Mehmet İnceoğlu. (2023). Body, dance and abstraction for spatial and structural comprehension in the first year of design education. *International Journal of Technology and Design Education*. <https://doi.org/10.1007/s10798-023-09821-1>
- Sakai, Y., Watanabe, T., Wakao, N., Matsui, H., Osada, N., Sugiura, T., Morita, Y., Kawai, K., Ito, T., & Yamazaki, K. (2022). Proprioception and geriatric low back pain. *Spine Surgery and Related Research*, 6(5), 422–432. <https://doi.org/10.22603/ssrr.2021-0269>
- Tan, C. C., & Thiagarajan, P. (2020). Teaching Dance to Kindergarten Children through School Concert Dance Performance: A Self-Review. *Malaysian Journal of Performing and Visual Arts*, 6, 7–25. <https://vmis.um.edu.my/index.php/MJPVA/article/view/26460>
- Tarampi, M. R., Geuss, M. N., Stefanucci, J. K., & Creem-Regehr, S. H. (2014). A preliminary study on the role of movement imagery in spatial perception. In *Lecture Notes in Computer Science* (pp. 383–395). https://doi.org/10.1007/978-3-319-11215-2_27
- Temple, B. A., Bentley, K., Pugalee, D., Blundell, N., & Pereyra, C. M. (2020). Using Dance & Movement to Enhance Spatial Awareness Learning. *Athens Journal of Education*, 7(2), 153-168. <https://doi.org/10.30958/aje.7-2-2.17>
- Temple, B. A., Bentley, K., Pugalee, D. K., Blundell, N., & Pereyra, C. M. (2020). Using dance & movement to enhance spatial awareness learning. <https://eric.ed.gov/?id=EJ1250304>
- Tondeur, J., Van Braak, J., Ertmer, P. A., & Ottenbreit-Leftwich, A. (2016). Understanding the relationship between teachers' pedagogical beliefs and technology use in education: a systematic review of qualitative evidence. *Educational Technology Research and Development*, 65(3), 555–575. <https://doi.org/10.1007/s11423-016-9481-2>
- Youhong 'Friendred' Peng, & Tanaka, A. (2019). Body and Embodiment in Dance Performance. University of the Arts London Research Online (University of the Arts London). <https://doi.org/10.1145/3347122.3359596>
- Amado, D., Molerio, P., Del Villar Álvarez, F., Tapia-Serrano, M. Á., & Sánchez-Miguel, P. A. (2020). Implementing a Teacher-Focused Intervention in Physical Education to Increase Pupils' Motivation towards Dance at School. *Sustainability*, 12(11), 4550. <https://doi.org/10.3390/su12114550>
- Ishikawa, T., & Newcombe, N. S. (2021). Why is spatial is special in education, learning, and everyday activities. *Cognitive Research: Principles and Implications*, 6(1). <https://doi.org/10.1186/s41235-021-00274-5>
- Janura, M., Procházková, M., Svoboda, Z., Bizovská, L., Jandová, S., & Konečný, P. (2019). Standing balance of professional ballet dancers and non-dancers under different conditions. *PLOS ONE*, 14(10), e0224145. <https://doi.org/10.1371/journal.pone.0224145>
- Ljubojević, A., Popović, B., Bijelić, S., & Jovanović, S. (2020). Proprioceptive training in dance sport: effects of agility skills. *Turkish Journal of Kinesiology*, 6(3), 109–117. <https://doi.org/10.31459/turkjkin.742359>
- Marquis, J. M., & Metzler, M. W. (2017). Curricular space allocated for dance content in Physical Education Teacher Education Programs: A Literature review. *Quest*, 69(3), 384–400. <https://doi.org/10.1080/00336297.2016.1256223>
- Morris, T. H. (2019). Experiential learning – a systematic review and revision of Kolb's model. *Interactive Learning Environments*, <https://doi.org/10.1080/10494820.2019.1570279> 28(8), 1064–1077.
- Niyomsuk, S., & Poliyem, T. (2022). The application of TikTok in instructing Grade 7 students' Thai traditional dancing art. *Journal of Educational Issues*, 8(1), 480. <https://doi.org/10.5296/jei.v8i1.19800>
- Noguera, C., Carmona, D., Rueda, A., Fernández, R., & Cimadevilla, J. M. (2020). Shall we dance? Dancing modulates executive functions and spatial memory. *International Journal of Environmental Research and Public Health*, 17(3), 1064–1077. <https://doi.org/10.3390/ijerph17031064>
- Pytlík, G. (2020, March 17). Spatial awareness, your secret weapon as a dancer. *Delta.Dance*. <https://delta.dance/2020/03/spatial-awareness-dancers-secret-weapon/>
- Romita, A., & Wanich-Romita, N. (2023). Functional awareness. In *Oxford University Press eBooks*. <https://doi.org/10.1093/oso/9780197586815.001.0001>